CSci 350 Visualizing a grid

Due Thursday Febr 19th

In this assignment you will write code to visualize a grid. Your program will read the input grid from file and render it in a 2D top-down view (that is, using the default openGL viewpoint and projection). The color of each point should be a function of the elevation of the point. To do this, you will need to write a colormap function to map an elevation range into a color range. Essentially you need to divide the grid elevation range into a number of buckets and assigns a color to each bucket. The number of buckets (i.e. different colors) will be a fixed constant of your choice (for e.g. between 5 and 10). You need to implement at least two color maps (black-gray-white, rainbow, etc).
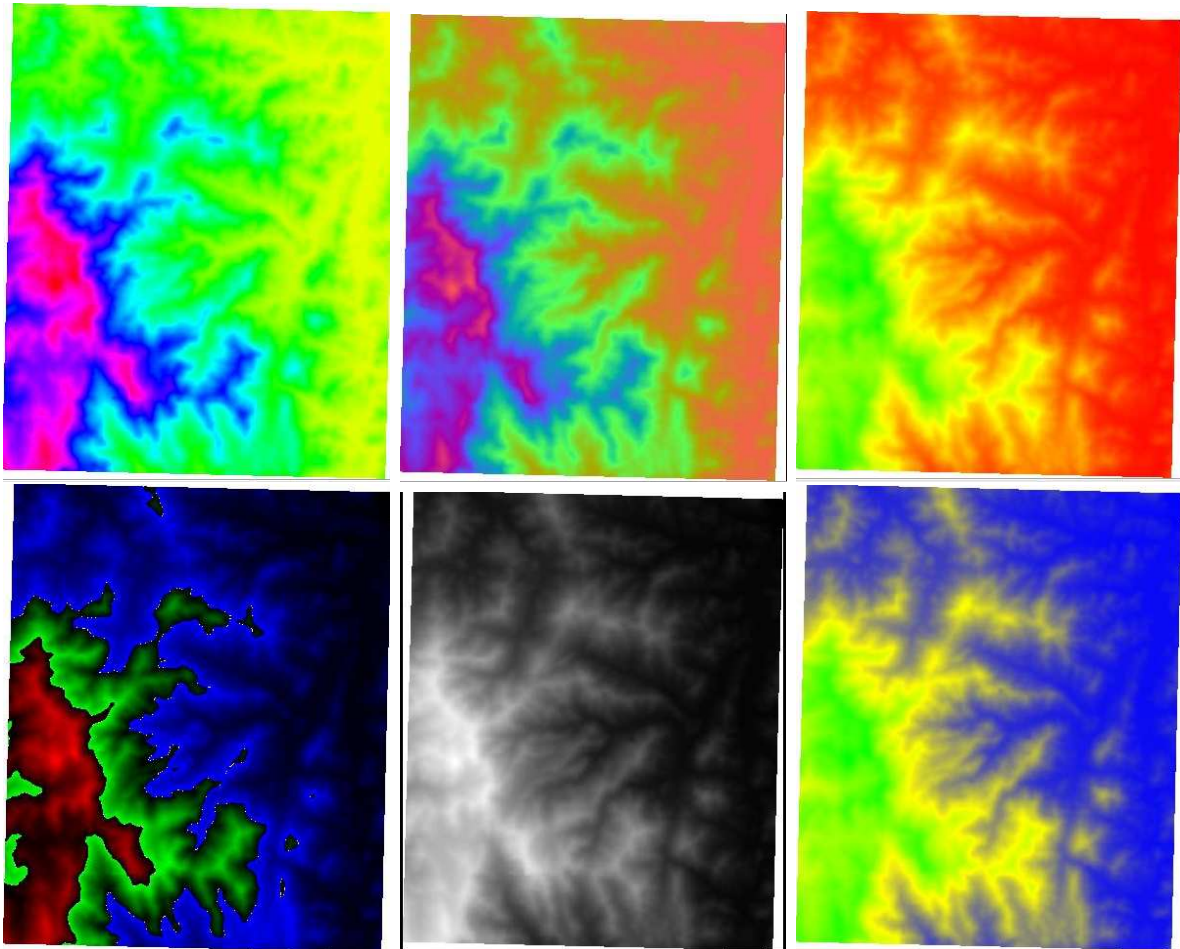

Figure 1: Rendering of *set1* with various color tables.

Your program should take one argument, the name of the grid. When invoked with a wrong number of arguments your program should display a help message just like a standard unix command. Your program should correctly handle the situations when the input file does not exist and other common error scenarios.

Your program should include a menu that:

1. toggles between drawing the polygons in your scene filled, or contour only

2. allows to select a color map

3. Quit.

To submit your code, create a directory with your name that contains your code. Make a tar file of the directory and email it to me by the due date.